



Preparing students for promising job opportunities: Examining the alignment between career and technical education programs and the labor market in your state

While students prepare and hope for promising careers, employers seek job candidates who can satisfy their job requirements. Aligning career and technical education (CTE) program offerings with the labor market can help prepare students for jobs that are in-demand and/or high-wage while addressing local labor needs. The Maryland State Department of Education understands the importance of the pipeline from high school to careers and worked with the Region 4 Comprehensive Center (R4CC) to examine the alignment of the state's high school current CTE programs and the labor market. In this blog post, we discuss the purpose of an alignment study, what data are required, and other considerations. [You can find the full alignment study here.](#)

Why examine CTE program alignment?

State and local CTE leaders can leverage information about CTE program alignment to make important decisions about which programs to offer to improve outcomes for students *and* also better serve the needs of the labor market. States can use information from an alignment to:

- Identify in-demand and/or high-wage jobs that require skills and training that CTE programs can provide.
- Change local CTE program offerings to improve alignment with labor market needs.
- Provide information to the community about the employment prospects related to CTE programs.
- Encourage enrollment in CTE programs that align with job openings and help address labor shortages.
- Connect secondary and postsecondary CTE opportunities so students can continue their education beyond high school when needed.

The alignment study that R4CC conducted for Maryland identified regional CTE programs that were not aligned to a high wage, high skill, or in-demand occupation within the region. This study also identified high-wage, high-skill, and in-demand occupations that did not have an aligned CTE program in the region. These identifications provided Maryland with information they can use when they are making decisions about adding or removing CTE programs.

What data are required for examining CTE program alignment?

CTE leaders may wish to examine the alignment between CTE programs and the labor market at the secondary or postsecondary level, and there are a variety of workforce and education data they can use to conduct this type of analysis. If possible, analyses should rely on data from the local level because of the limited mobility of many young adults and the differences in regional labor markets. For communities that have a mobile workforce and/or are located near bordering states, using supplemental data from neighboring regions can better inform CTE leaders' decisions around CTE program offerings. Finally, depending on which CTE programs are of interest—secondary or postsecondary—consider narrowing the jobs in the analysis to those with educational requirements



the CTE programs of interest satisfy. The table below details the types of data needed to quantify the alignment between CTE programs and meaningful employment opportunities.

Type of data	Purpose of data	Potential data source
CTE program offerings in high schools and postsecondary institutions	Identify alignment between CTE program availability and the labor market	State department of education
Crosswalk between CTE programs and the jobs that they prepare students for	Identify CTE program alignment with employment opportunities	State department of education
The number of employment openings and salaries for jobs in the relevant labor market	Identify in-demand and high-wage employment opportunities	State department of labor
Job requirements (skills, experience, and education) for jobs in the relevant labor market	Identify subsets of jobs that have requirements that CTE programs can satisfy	U.S. Department of Labor's O*NET website

Considerations beyond CTE program alignment with the labor market

Other types of information can bolster the decision-making capacity of CTE leaders, such as:

- **Number of students completing each CTE program.** Examine whether too many or too few students complete programs relative to labor-market demand.
- **State and local workforce development goals.** Consider the needs of new or rapidly growing industries that states are trying to attract using labor market projection data over time.
- **Alignment between secondary and postsecondary CTE opportunities.** Examine the alignment between high school and postsecondary CTE programs to reveal gaps in the educational pipeline.

After taking considerations such as these into account, CTE leaders may decide that some programs designated as unaligned are still worth keeping. Similarly, student enrollment in aligned programs may need to be adjusted to ensure programs are meeting labor-market demand. Finally, gaps in the education pipeline may need to be addressed through the addition of CTE programs to meet labor market demands. If CTE leaders use this information, they have the potential to not only improve student outcomes but also to help the local community and economy thrive.